

DIGITAL AGRICULTURE IN SOUTHEAST ASIA

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INTERNET OF THINGS IN FOOD PRODUCTION

The Internet of Things in Food Production holds significant potential to improve the farming process to make it climate-smart, including digitalised data collection, data analytics, and farming automation.



Digitalised Data Collection provides farmers with timely information on environmental factors, pests and diseases for adjusting their farming practices.

- Remote-Sensing
- Onsite (In-Situ) Sensing
- Crowdsourced Data Collection

Farming Automation relegates repetitive operations to computers/machines instead of relying solely on manual efforts.

- “Smart” farming tools or devices
- Smart Irrigation
- Drones for spraying nutrients/pesticides
- Control of Environmental Factors

1. Digitalised Data Collection

2. Digital Data Analytics

3. Farming Automation

Digital Data Analytics translates the data collected into actionable recommendations for farmers.

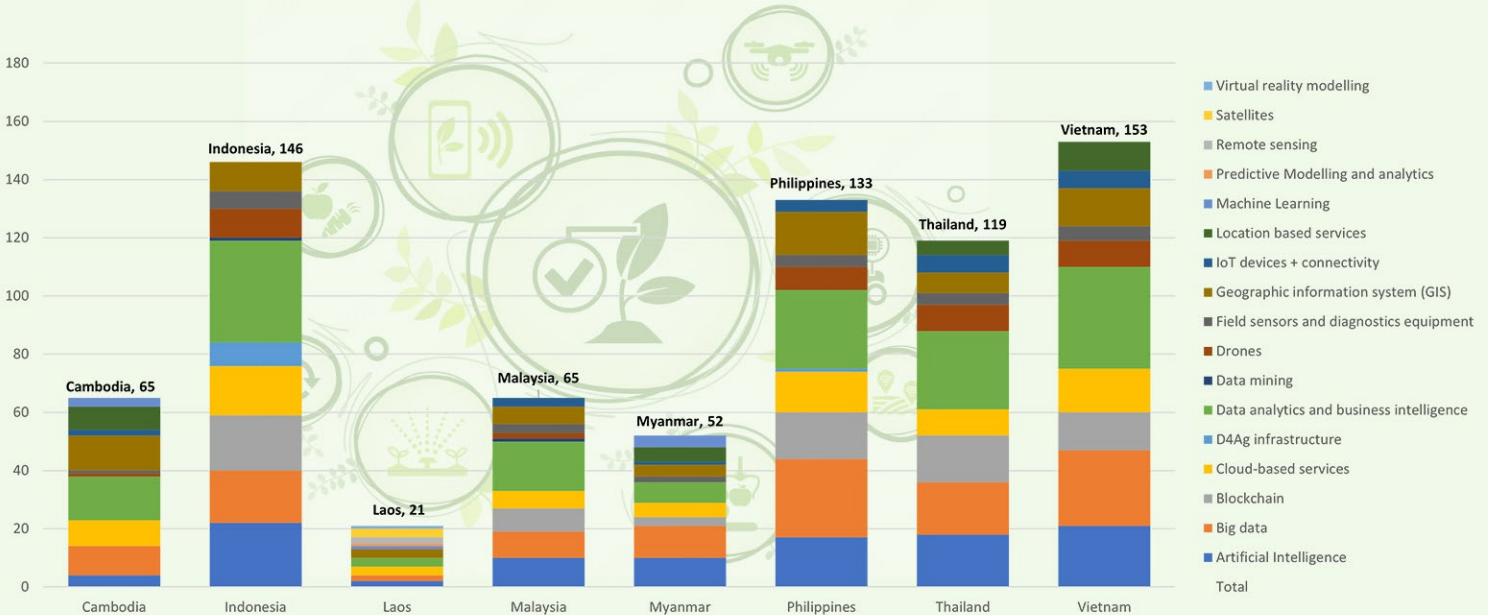
- Sensor-based analytics
- Data Visualisation
- Predictive Analytics
- Deep Learning Technologies
- Data Cleaning Algorithms
- Big Data Analysis Algorithms
- Machine Learning



Source: Author’s summary of OECD. 2019. “Digital innovations and the growing importance of agricultural data.” Chapter 2 in Digital Opportunities for Better Agricultural Policies, OECD Publishing, Paris.

DIGITAL AGRICULTURE APPLICATIONS IN SOUTHEAST ASIA BY TECHNOLOGY AND COUNTRY

Across Southeast Asia, Indonesia and Vietnam are leading in having the highest number of digital agriculture technology applications in their own farming sectors.



Source: Compiled from DigitalAgriHub. 2023. “Digital Agriculture Dashboard.” DigitalAgriHub Website, <https://digitalagrihub.org/web/guest/dashboardframe>, accessed 21 March 2023.
Note: Data on Singapore and Brunei were not available in the dataset.